

JAN 13 2000

Lawrence Bengal, Supervisor
Illinois Department of Natural Resources
Office of Mines and Minerals
Oil and Gas Division
300 West Jefferson Street, Suite 300
Springfield, Illinois 62791-0137

Dear Mr. Bengal:

Thank you for your December 20, 1999, letter commenting on our December 2, 1999 draft end-of-year report regarding the Illinois Department of Natural Resources' Class II Underground Injection Control (UIC) program. As a result of your recent letter regarding our draft report, particularly our findings on your Compliance and Enforcement Program, I instructed my staff to hold a conference call with Michele Phillips, of your staff, to discuss your concerns before we finalized the report. It is my understanding that this conference call was held on January 10, 2000 and agreement was reached on how we would revise our draft report in response to your concerns. We have made these revisions and it is my pleasure to enclose our final end-of-year report. If you still have concerns, please let me know.

I am committed to doing whatever I can to help you secure more legal assistance from within the IDNR as well as from the State Attorney General's Office, including escalation of this issue in a letter from Ms. Jo Lynn Traub, Director of Region 5's Water Division to your Director, Mr. Brent Manning. Please let me know if you think this type of assistance from Region 5 would be helpful to you.

Thank you once again for your hospitality during our visit in August as well as the dedication and continued support for the UIC program by you and your staff.

Sincerely yours,

/s/

Valerie J. Jones, Chief
Underground Injection Control Branch

Enclosure

cc: Dick Mottershaw, Director, Office of Mines and Mineral
Illinois Department of Natural Resources

bcc: John Taylor/Helen Lenart/Jeff McDonald/Ross/Micham/Nathan Wiser (R8)

THE ILLINOIS DEPARTMENT OF NATURAL RESOURCES' UNDERGROUND INJECTION CONTROL PROGRAM FOR CLASS II WELLS

FINAL END-OF-YEAR REPORT PREPARED BY U.S. EPA, REGION 5 JANUARY 13, 2000

EXECUTIVE SUMMARY

From August 23 thru August 27, 1999, the Region 5 Underground Injection Control Program review team (Valerie Jones, John Taylor, Helen Lenart, Jeff McDonald, Ross Micham and Nathan Wiser) conducted an in-depth review of the Illinois Department of Natural Resources (IDNR) Underground Injection Control Program for Class II wells. The IDNR annually receives a UIC grant from the Region in the amount of \$285,000. The review team focused on three critical areas as follows: Programmatic, Permitting, and Compliance and Enforcement. The results of this review are highlighted below in this final report. The preliminary results were discussed with Dick Mottershaw, Larry Bengal, Michelle Phillips, and Duane Pulliam during the exit interview on August 27, 1999 by the U.S. EPA review team.

In summary, with the exception of insufficient legal support within the IDNR as well as from the Attorney General Office, Region 5 commends the Illinois Department of Natural Resources (IDNR) for their excellent work performed in Federal Fiscal Year 1999 (i.e., October 1, 1998 thru September 30, 1999) in administering the Class II well program. We especially applaud your efforts to become a paperless office. We were pleased to learn that the "Illinois First" program will allocate two million dollars a year for 5 years to well plugging (total of \$10 million). We are supportive of efforts to coordinate activities with the Illinois Environmental Protection Agency (IEPA) and are willing to assist in deliberations with IEPA to highlight source water protection areas. Region 5 is pleased to assist IDNR with a Federal enforcement action against an Illinois operator and encourages the IDNR to call upon us for assistance with other enforcement actions on an as needed basis. Finally, the Region recognizes your frustration in not having sufficient legal support within the IDNR as well as from the Illinois Attorney General Office and we stand ready to assist you in getting more legal support if at all possible.

A. PROGRAMMATIC AREA

1. Orphaned Well Plugging

Observations/Discussion

The IDNR maintains a strong orphaned well plugging program. The highest priority wells for plugging on an emergency basis are those wells that are found to be flowing or leaking fluids to the surface. The next priority for plugging are those wells on adjacent leases that can be identified in groups of 30-40 wells. The IDNR well plugging program has been supported through fees paid by well operators and has recently operated at a level of \$300,000-\$500,000 per year. With funds from the "Illinois First" program, an additional 2 million dollars per year will be allocated to well

plugging. To date, 5,000 UIC wells are in temporarily abandoned status and 5,000 UIC and oil and gas wells are eligible for the plugging fund. Approximately, 500 wells are now scheduled to be plugged each year, which makes this work a significant environmental indicator of accomplishment for IDNR. Additionally, the Oil Pollution Act funding has cleaned up a number of problem sites.

Recommendations/Conclusions

The Region is pleased with the outstanding work IDNR has done in the area of well plugging and site clean-ups. We encourage IDNR to continue to maintain this excellent record of accomplishment.

2. Spill Clean-Up and Remediation/Class II Fluids Disposal

Observations/Discussion

IDNR has been having discussions with IEPA in regard to jurisdictional issues pertaining to standards for chemicals that U.S.EPA follows. According to IEPA, at brownfield or other cleanup sites there is a different set of standards for every chemical and all "events" must meet these standards. This is referred to as the Tiered Approach to Compliance Objectives (TACO) and would come into play at oil field cleanup sites along with IDNR's other remediation standards. This raises questions as to whether both agencies' standards would apply and, if so, how they would be coordinated. Further discussions between the agencies are planned.

Recommendations/Conclusion

The Region encourages IDNR to work closely with IEPA to negotiate authorities and the procedures for addressing spills involving crude oil and Class II fluids. We are available to assist in facilitating these discussions where needed.

3. UIC Primacy Program Update Package

Observations/Discussion

The Region needs a new Attorney General statement from IDNR to update its primacy package as the current document references the old agency name, "IDMM". IDNR mentioned that there is a statute that aligns prior agency references into IDNR. As far as incorporating the Herscher aquifer exemption into the IDNR primacy update, U.S. EPA Headquarters(HQ) wants the Region to hold a public hearing and go statewide for Herscher and Colmar Plymouth. Subsequent to the August visit with IDNR, the Region has committed to a target date of September 30, 2000 to forward to HQ the updated IDNR primacy package. In order to meet this target date of September 30, the Region needs to receive the updated primacy package from IDNR as soon as possible. The IDNR indicated that they are currently working to obtain a new Attorney General Statement to update the primacy package.

Recommendations/Conclusion

Since it is the State's responsibility to certify the legal sufficiency of the primacy program, as a result of the change in primacy agency, the Illinois Attorney General (AG) will need to either provide a

new AG's statement or certify that the statute aligning prior references into the new agency is sufficient to meet this requirement.

4. Form 7520 Revisions

Observations/Discussion:

The current UIC reporting mechanism, Federal Form Series 7520, is being revised nationally to include more relevant measures and to eliminate unnecessary reporting fields, and to align reporting with the Government Performance and Results Act (GPRA) requirements, as discussed below. We are pleased that the IDNR agrees to work with this national workgroup to develop a revised Class II Form 7520. As we discussed, the current approach by the national workgroup is to develop a separate form for each well class, as well as separate forms for enforcement and inventory.

Recommendations/Conclusions:

We are pleased to hear that the IDNR developed some draft forms during the mid-1990s as working models. There are also draft forms being developed by the Texas Railroad Commission, the Nebraska Oil and Gas Conservation Commission, and the Montana Oil and Gas Board, as well as Region 5. During our discussions, you agreed to send Region 5 copies of the draft forms which you developed, and we agreed to send you any subsequent forms which we have. We think this is a great opportunity for establishing a working relationship among different State agencies and U.S. EPA. We have corrected Michele Phillips' E-mail address on the distribution list which U.S. EPA HQ uses. If Ms. Phillips is still not included in future conference calls to discuss revisions to Form 7520, please let us know so we can follow-up again with our Headquarters Office.

5. Government Performance Results Act (GPRA)

Observations/Discussion:

The GPRA is a Federal statute passed by Congress and signed into law in 1995. The GPRA requires all Federal agencies to report progress toward target results in a format which is easy to understand. The implementation of this statute commits the U.S. EPA to achieve certain goals by the year 2005, with measurable progress each year. U.S. EPA's budget is now completely organized around these goals. There are ten major GPRA goals under which U.S. EPA's work falls. The UIC program largely falls under two of these ten goals: providing clean and safe water (Goal #2) and providing a credible deterrent to non-compliance (Goal #9)

During our visit in August, we discussed the need for the IDNR to be able to report on the data elements which will be contained in specific sub-objectives under the relevant goals. To achieve this, we recognize that Form 7520 needs modification to accurately capture the information needed under the GPRA. This would allow reporting under the same form without the need to separately report UIC well inventory and GPRA measures, as well as the traditional elements measuring UIC program performance. Since the budget for FY2001 is now being planned, the GPRA measures for FY2001 are now being finalized.

Recommendations/Conclusions:

Region 5 agrees to forward to the IDNR the final version of the FY2001 GPRA objectives and measures as soon as it becomes available. We are pleased that the IDNR agrees to work with us to achieve these broad goals. The reportable elements under the GPRA we discussed during our visit are not likely to change when the final FY2001 version is sent out. They include the following which are relevant to the IDNR:

1. Reporting the percentage of required mechanical integrity tests that take place in each year;
2. Reporting the percentage of injection wells losing mechanical integrity that are adequately addressed;
3. Reporting the number of abandoned or other wells plugged; and,
4. Collecting locational data for injection wells in a GIS format so the data can be used in source water assessments (SWAs).

For the first three of these reporting measures, the IDNR should be able to directly generate the data. For the fourth measure listed above, Region 5 understands that locational data for the Illinois wells may already be in a format compatible with SWA, but since the Illinois EPA is responsible for developing SWAs, contact between the IDNR and the Illinois EPA is needed. Region 5 agrees to help facilitate any necessary contact and cooperation between the two agencies in order to assure that the fourth GPRA measure can be achieved.

6. Quality Management Plans (QMPS)

Observations/Discussion:

On August 26, 1999, a telephone conference call was held in which participants from U.S.EPA, the Indiana DNR, the Ohio DNR and Illinois DNR were in attendance. During that call, Region 5 representatives explained how QMPs have come to replace the older Quality Assurance Project Plans (QAPPs). QMPs are required now to assure U.S. EPA that grant dollars are wisely spent to generate environmental data upon which environmental decisions are based. Whereas traditionally QAPPs focused on chemical or biological analyses of natural samples taken, QMPs focus more on the presence of a permanent quality assurance system in the agency's organizational and management structure covering all necessary programs, as well as documenting well thought out standard operating procedures to assure good quality decision-making. As of December 31, 1999, the Ohio DNR is the only agency on the conference call that has submitted a draft QMP to the Region for review and subsequent approval.

Recommendations/Conclusions:

A December 16, 1998, letter from Dave Ullrich, Acting Regional Administrator, was sent to Brent Manning, Illinois DNR Director, which outlined the need to develop QMPs by every State agency program by September 30, 1999. The Region has now agreed to provide additional time for the completion of these documents, contingent upon the State's efforts to complete them in an

expeditious manner. While draft QMP document do not have to be submitted until April 1, 2000, we would point out that all FY 2000 state program grants have been conditioned to require final approval by June 1, 2000 or else grant payments will be held at that time. As such, we would strongly urge the IDNR to submit a draft QMP as early as possible to allow for review times and necessary revisions which may need to occur before final approval. We will be happy to work closely with IDNR staff to assist you in completing this effort.

B. PERMITTING AREA

Observations/Discussion:

Illinois DNR provided a list of the 125 permits issued within the last year to the Region 5 review team for the permit file audit. From that list, ten injection well permit files (8 Water Injection and 2 Salt Water Disposal) were selected at random for review. Three of the file reviews also involved a complete examination of the records for all wells in the area of review. All significant portions of the record from the initial receipt of the permit application to final permit issuance were considered in the file reviews. The IDNR permit application processing procedures documented in the files and the decisions made by permit staff on the submitted application package and any subsequent submittal by the applicant were also compared to the Illinois Oil and Gas Rules for consistency of implementation.

One aspect of the permit application review and decision process that was examined by the review team was the selection of a instantaneous shut in pressure (ISIP) for determining the maximum injection pressure (MIP) for a permit. This issue came up when the Region 5 reviewers were not initially convinced that the nearby well test documentation submitted by the permit applicant for the J.B. Lewis #ST-27 well (Permit #201989) was sufficient for setting the MIP. The IDNR permit program staff discussed the process for evaluation and use of well treatment data with the review team and it was shown that the ISIP that was selected from the report and chart was based on several criteria as well as on the staff's best professional judgement.

Recommendations/Conclusions:

We are pleased to report that the permit file audit shows that the IDNR UIC program continues to operate an exceptional permit program. The permit application review process was thorough and well documented. All permit actions were supported by the documentation provided and the permits and permit conditions were found to be protective of underground sources of drinking water. This conclusion is especially impressive considering the volume of permit actions processed in the last year by the limited number of permit staff.

It was recommended that the permit staff's knowledge and experience with well treatment data acquisition and ISIP interpretation be further enhanced by witnessing these procedures in the field. Field training that includes observation of data acquisition and interpretation by company engineers experienced in performing these duties in the State can prove invaluable in enhancing staff expertise and can also help staff to keep up with some of the latest technologies and techniques.

C. COMPLIANCE AND ENFORCEMENT AREA

1. Notice of Violation (NOV) for Significant Non-Compliance (SNC)

Observations/Discussion:

The IDNR effectively utilizes its limited staff resources, primarily through its efficient use of the electronic database system. They also have a number of field inspectors that are able to identify noncompliance, witness tests and well completions and plugging, and follow-up on issues previously identified, either in the field, or in the office. Given the large number of injection wells (9,124) and oil/gas wells (33,000) that the State oversees, this is a large task. The IDNR is able, through the aforementioned electronic database system and their field presence, to issue a large number of Notices Of Violation (NOV). The focus of the Region 5 review, however, was limited to UIC violations and specifically those that fall in the Significant Non-Compliance (SNC) category.

Illinois DNR indicated that they had issued 2,211 NOV's during the year covering both UIC and non-UIC violations. The NOV's for UIC violations accounted for 35% of the total 2,211 NOV's issued or about 784 NOV's for UIC violations. Of the 96 NOV's issued between 8/1/98 and 7/30/99 for UIC SNCs, 59 had been issued Director's Decisions (DD) by the time of the review. Of those 59, only 4 were assessed with a penalty (their status were Receivable, Referred to Comptroller, or Paid) which equals 6.8% of 59. Of the 59 which received DDs, 14 cases (24%) did not abate the violations by the due date. Of this 24%, only 2 cases received a fine as part of their DD. Out of 16 files reviewed, 7 had not yet been issued DDs, 3 were issued DDs with fines and 6 were issued DDs without fines.

During the exit interview with IDNR on August 27, 1999, the IDNR stated that the most significant factor impacting the success of the UIC enforcement program is the lack of legal services. IDNR stated that the time of one attorney must be shared between their office and the rest of the Office of Mines and Minerals. Therefore, the IDNR pursue those violations with the greatest potential for environmental harm (usually oil & gas related wells), or those with outstanding injunctive relief (including UIC violations) over those of a penalty only nature. Furthermore, IDNR stated if there were more legal staff (within the IDNR as well as at the Attorney General's office), then the IDNR would be less hesitant to issue Director's Decisions with only penalties outstanding. IDNR stated that there are over 80 active lawsuits pending with the Illinois Attorney General's office and that many of these lawsuits include UIC violations.

Recommendations/Conclusions:

It is our recommendation that additional legal staff be provided to the IDNR from within IDNR as well as from the Attorney General's office immediately to effectively deal with UIC well violations, particularly SNC violations. Furthermore, while we recognize and appreciate the philosophical differences between the Region and IDNR on the subject of assessing civil penalties, Region 5 believes the issuance of fines for significant violations will result in less instances of these types of violations in the future. Illinois operators will realize that they cannot violate the law without a cost.

2. Annual Monitoring Reports (Form OG-18)

Observations/Discussion: The State receives annual monitoring reports (Form OG-18s) from injection well permittees. These reports are due to the State by May 1st in the year after the year to be reported. When these reports come in, the State reviews them to check the packer depth, the injection zone or zones, the maximum flow rates, and the maximum injection pressures. These last two permit limitations are important to ensure that injection activity does not cause fluid to migrate into underground sources of drinking water. The State is doing a good job of noting violations of maximum injection pressure. Region 5 noted a few instances where operators were significantly exceeding their injection pressure limitations. In those cases, the State identified the violation and issued NOVs. Also noted were instances where the reported information seemed "suspicious." Examples of suspicious submissions include month to month variations in flow rates that match from year to year, as in the following:

White Land & Minerals, Inc.'s Schmidt Price #4 Well
Average Daily Flow Rates for January to December of 1997
64, 65, 61, 67, 55, 62, 69, 63, 68, 59, 63, 51 (all in Bbl/day)

Average Daily Flow Rates for January to December of 1998
64, 65, 61, 67, 55, 62, 69, 63, 68, 59, 63, 51 (all in Bbl/day)

The probability that a well would have the exact same average flow rates from month to month, in the exact same order is extremely small. Region 5 also noted that some field observations do not match those reported via the Form OG-18s. For example, the O'Donnell-Rigg et al Unit #3-A well operated by Keron Oil Development was issued a field NOV for exceeding their maximum injection pressure. The permitted maximum injection pressure is 765 psig. and the inspector noted in October of 1998 that the well was injecting at 1150 psig. A review of their 1998 OG-18 states that their maximum observed injection pressure that month was 700 psig. The information in the annual report is incorrect. In this example, the State did identify and record well operational data from the field, however, the State did not correlate it with submitted data from the operator. Another example where the operator has habitually exceeded their permitted maximum injection pressure is as follows:

Bufay Oil Company, Inc. O&G Case # 25308
1/19/88 - Injection permit issued with 900 psig. maximum injection pressure limitation.
1989 Annual report shows operator injecting at pressures between 700 and 1600 psig.
1997 Annual report shows operator injecting at pressures between 1850 and 2050 psig., more than twice the permitted injection pressure limitation.
7/2/98 - OG-13-23(tubing and packer report) forms notes that maximum injection pressure is 900 psig.
9/2/98 - NOV issued for exceeding maximum injection pressure based on 1997 annual report.

Subsequent to the August review, the IDNR stated that they had instituted new procedures in October 1999 for the 1998 reporting OG-18 forms relative to wells where the permittee reported an

injection pressure that exceeded the maximum injection pressure (MIP). These new procedures include a field inspection to confirm the injection pressure. Appropriate enforcement action is then taken where the field inspection indicates the MIP is being exceeded.

Recommendations/Conclusion: We applaud IDNR for your expeditious implementation of new procedures to field check OG-18's for Class II wells exceeding MIPs. We would also encourage IDNR to have your field inspectors routinely record injection rates and/or totalizer readings, injection pressures and whether or not a well is active when they visit wells. This information can then be used when needed to verify data submitted by the operator in monitoring reports. The use of field data that is cross checked against operator reported data would help to underscore the significance of these violations and could be used to urge the operator to report accurate data and not to exceed permit limitations.

See 1/13/00

See 1/13/00

See 1/13/00

See 1/13/00